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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,812	12/24/2003	Mark Thomas Grimm	08350.2532	1718

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EXAMINER

NORMAN, MARC E

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,812

Applicant(s)

GRIMM ET AL.

Examiner

Marc E. Norman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 10-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 26-28, 30, 31 and 34 is/are rejected.
- 7) ☒ Claim(s) 29, 32 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/24/03; 4/1/05; 4/1/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of the restriction in the reply filed on 27 April 2006 is acknowledged. The traversal is on the ground(s) that Groups I and II are not separate subcombinations due to certain overlapping subject matter in related dependent claims. This is not found persuasive because the restriction is based on original presentation of the inventions as exemplified in the independent claims, which are subcombinations usable together as set forth in the restriction. The fact that dependent claims might recite overlapping subject matter is immaterial.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "the input indicative of current air-treatment system operation" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, and 6-9 are rejected under 35 U.S.C. 102(e) as being anticipated by

Grabon et al.

As per claim 1, Grabon et al. discloses an air treatment system comprising a cooling circuit 10, first heat exchanger 38, secondary circuit 40, controllers (18, 26, 28) receiving desired temperature and ambient temperatures (based on associated temperature sensors as shown in Figure 1), a secondary circuit operation (valves 20, 22, 24), and controlling the opening/closing of these valves based on temperature requirements.

As per claim 2, Grabon et al. discloses compressor 42, condenser 32, and expansion valve 36.

As per claim 4, Grabon et al. discloses pump 30, heat exchangers (12, 14, 16), and fans associated with the heat exchangers (paragraph 0011, lines 3).

As per claim 6, Grabon et al. discloses the controls being based on desired temperatures (related to sensed temperatures).

As per claim 7, Grabon et al. discloses the controls occurring within a cooling system.

As per claim 8, Grabon et al. discloses the ambient condition being air temperature.

As per claim 9, Grabon et al. discloses air temperature sensor 58.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 5, 26-28, 30, 31, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabon et al. in view of Tao et al.

As per claims 5 and 34, Grabon et al does not specifically teach a heating device proximally disposed to the heat exchangers. However, such heating devices are well-known in the art for the purposes of removing reheating air after it has been cooled by the heat exchanger in order to remove humidity from the air (see for example Figure 3 of Tao et al. showing a fan 80, heat exchanger 84, and heater coil 86 combination. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply such a heater to the heat

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exchangers of Grabon et al. for the similar purpose of controlling the humidity of the air entering the control space.

As per claim 26, Grabon et al. does not teach an operator cabin. However, the claim simply applies the system of claim 1 to an operator cabin application. Since an “operator cabin” is simply one of many types of spaces that might be controlled using the system of Grabon et al., and the temperature control of operator cabins is well known in the art (see CAB HVAC of Tao et al.), it would have been an application to one of ordinary skill in the art to apply to an operator cabin for the purpose of controlling the temperature therein.

As per claims 27 and 30, Grabon et al. also does not teach a sleeping cabin. However, as also shown in Tao et al., systems for controlling both cabs and sleepers are known in the art. It would have been obvious to one of ordinary skill in the art to use the system of Grabon et al. to control the temperature of a sleeper cabin in addition to the cab section, as discussed regarding claim 26.

As per claims 28 and 31, Tao et al. further teaches a heating circuit (heated water circuit 36 and 38) in fluid communication with the cooling system (Figure 1).

Allowable Subject Matter

Claims 29, 32, and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MN

A handwritten signature in black ink, appearing to read 'Marc Norman', with a stylized, cursive script.

MARC NORMAN
PRIMARY EXAMINER